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AUTHOR	Schumacker, Randall E.
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ABSTRACT

An introduction to various types of research methods for students in education and psychology is not only informative, but it also allows students to better understand the advantages and disadvantages of both quantitative and qualitative research methods. A valuable exercise in the Web-based course for helping students identify what type of research methods are being used would be for students to investigate journals in their academic discipline, find a research article related to a topic of interest, and critique the article. An important lesson that students can learn in a Web-based course is that they make a personal choice when selecting a research method, that conducting research is a privilege, and that there are consequences involved when conducting research. (AEF)

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Educational Research Methods
A Web Course

Randall E. Schumacker, Ph.D.
University of North Texas

R.E. Schumacker

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Educational Research Methods
A Web Course

ABSTRACT

Various quantitative and qualitative research methods are introduced in a web based course. The web course is accessed via the Internet using a browser which provides the capability for students to access printed materials using Adobe Acrobat Reader, listen to narrated Microsoft Powerpoint presentations, access library materials and other related links from their home or school computer. The web course also provides various formats for testing, scoring, and the reporting of grades to students. Interactive chat rooms, bulletin boards, and e-mail allow students the opportunity to interact amongst themselves and/or contact the instructor.

Educational Research Methods
A Web Course

Students in education and psychology routinely take a research methods course to learn about the various research designs to conduct their thesis or dissertation. In some cases, the first research method a student learns is based upon collaboration with their major professor or other faculty working on a research project. Seldom are students aware of the various types of research methods, especially in their own discipline, e.g. early childhood education, curriculum and instruction, counseling, higher education. Consequently, an introduction to the various types of research methods is not only informative, but allows students to better understand the advantages and disadvantages of the various quantitative and qualitative research methods.

From 1988 to 1998, the Educational Researcher published numerous articles debating the efficacy of using either quantitative or qualitative research methods. In numerous articles, the author(s) established the differences between the two approaches. In a few articles, the author(s) argued for a complementary of methods, basically using both approaches. The logic of using both approaches was based upon the argument that the weaknesses in one method were the strengths in the other method, and vice versa. Quantitative research methods typically reflect reliability/validity of design, objectivity, and design replication. Qualitative research methods typically reflect real world experiences, introspection, and generalization. Using complementary methods strengthens the research design because the strengths of both approaches are included. This awareness is critical to our understanding that no single research method is an ideal. The decade of debate has resulted in an awareness that quantitative and qualitative paradigms (how one goes about conducting research) differ, but that the methods are complementary.

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Researchers fall into three basic categories: purist, situationist, and pragmatist. The purist is a "hardliner" who only conducts research using a single approach, i.e., quantitative only or qualitative only. For example, a qualitative researcher would only analyze textual data not numerical data. A situationist is an individual who identifies which approach to use based upon the research topic. For example, a situationist might choose to observe teachers in a classroom for one type of study, but choose ex-post facto research in another study designed to predict which teachers are most effective in the classroom based upon students' test scores and other achievement measures. A pragmatist uses both approaches in a research study. For example, in evaluating teacher effectiveness in the classroom, a researcher might both observe the teacher in the classroom (qualitative) and correlate student test scores with statewide normative test scores (quantitative).

Examples of various quantitative and qualitative research studies can be readily found in professional association sponsored journals and other academic disciplines which have peer reviewed research journals. A valuable exercise in the web based course is for students to investigate journals in their academic discipline, find a research article related to a topic of interest, and critique the article. This activity helps the student to identify what type of research method(s) are being used in their academic discipline. The quantitative research methods are characterized by:

1) Survey Research
2) Experimental Designs
3) Quasi-Experimental Designs
4) Correlation/Regression
5) Descriptive
6) Causal-Comparative
7) Longitudinal Time Series

The qualitative research methods are characterized by:

1) Case Study
2) Observation
3) Participant-Observation
4) Historical
5) Documents (Content Analysis)
6) Autobiographical/Biographical
7) Interview (Individual/Group/Focus Group)
8) Action Research

Another important lesson that students realize in the web based course is that they make a personal choice when selecting a research method. Conducting research requires personal involvement because one decides "how they would like to do research". The personal choice is based in part on what type of research method one feels comfortable with and/or understands the best. The topics we research are also done by personal choice or preference. No one holds a gun to our head or mandates what we research or how we conduct our research. Does it really matter whether we choose a quantitative or qualitative approach? To many scholars, the answer is yes! In fact, researchers often "bash" other researchers choice of a research method and usage, e.g., true experimental designs with a control group, i.e., Solomon 4 group, is the "top gun" method.

Students learn that conducting research is a privilege. Students are made aware of the fact that their research proposal is scrutinized by a peer group (thesis or dissertation committee). Similarly, grant proposals are scrutinized prior to acceptance or rejection of funding. Publications in professional association and academic peer review journals also undergo scrutiny before an acceptance or rejection decision is made to publish. Universities all across America require research proposals to be approved by an Institutional Review Board (IRB). This guarantees the safety of participants in the research project. The IRB standards were adopted in part due to the Federal code of regulations law, Title 45, Part 46. As members of professional associations

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(AERA, NCME, ASA, APA, ASCD, etc.), guidelines and ethical standards are also adopted for conducting research. Membership in a professional organization implies that you adhere to their code of conduct and ethical standards.

Students learn that there are consequences when conducting research. For example, what if a student designed a research project to investigate muscle activity using an electrical current and a participant complained of muscle damage? The consequences could be physical harm to the participant and financial loss to the researcher due to a law suit. What if a researcher designed a research project to identify productive and less productive teachers and then reported the findings to school administrators? The consequences could be that certain teachers lose their job and financial loss to the researcher due to a law suit. These examples may seem extreme, but highlight the potential danger and consequences of conducting research. In some cases, major legislation has been passed by politicians based on research findings, which have affected schools and communities all across America, e.g. busing legislation based on findings in the Coleman Report, which years later was found to be incorrect.

The personal choice, privilege, and consequences of conducting research are important lessons in the web course toward the goal of pointing out the advantages and disadvantages of the various quantitative and qualitative research methods. Moreover, focusing on the "result importance" whether statistical (quantitative) or implied (qualitative) lends itself to understanding practical considerations. What does a meta-analytic synthesis of research findings indicate in defining best practices in a discipline? What about including a synergy of research across disciplines, not just within a discipline on a topic of interest? Too often we focus only on research findings within our academic discipline and neglect important research findings in other fields that impact and relate to our topic of research. After all, the research effort essentially involves asking

a question, gather data or information using a research method(s), and then answering the question. We too often get involved in the details of measurement, design, and statistics, and forget to answer the research question(s).

APPENDIX

Information about the Educational Research Methods web course is available at:

webct.courses.unt.edu

Learn more about the Educational Research Program at:

www.eder.unt.edu

Obtain a copy of the AERA presentation and other related handouts and links at:

www.coe.unt.edu/schumacker